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In general, the memoir is a contention that the recent brilliant work which has knit together cycads and Filicales has developed the too sweeping conclusion that all gymnosperms have the same phylogenetic connection; that the old view suggesting a connection between conifers and lycopods deserves more attention than it has been receiving; and that at least the Araucarieae strongly suggest a lycopod origin. It is urged upon paleobotanical evidence that the Araucarieae are the most primitive of Coniferales, certainly more primitive than the Abietineae; and that this testimony from history is supported by numerous evidences of relatively primitive structures still exhibited by Agathis and Araucaria. The difficult question of the Cordaitales, which seem to combine characters of Cycadales and Coniferales and so necessitate a common phylogeny, is disposed of by minimizing their resemblances to the latter, at least to the Araucarieae. It must be remarked that the authors repeatedly emphasize the fact that they are dealing only with the Araucarieae, and that it does not affect their main contention whether the other Coniferales are related to a filicinean ancestry through the Cordaitales or not. In developing the differences between the Araucarieae and other Coniferales, they have been so impressed by their importance that they have suggested a group *Araucariales*, coordinate with Coniferales, Cycadales, etc. For this group, at least, they claim a lycopod ancestry, through some such form as Lepidocarpon, emphasizing the seed-like sporangia recently described by SCOTT in that genus.

The authors are to be congratulated upon a very fair statement of their case, a statement which dodges none of the difficulties, and which really does not claim very much more than that an almost abandoned hypothesis must not be neglected.

A very interesting appendix to this memoir may be obtained by reading the report[7] of two recent meetings of the Linnean Society, at which various views as to the origin of gymnosperms were presented and combated by English students of the group.—J. M. C.

Items of taxonomic interest.—N. L. BRITTON (Bull. N. Y. Bot. Gard. **4**:115–127, 137–143. 1906) describes new species of Bahama plants under Coccolobis, Caesalpinia, Canavalia, Hibiscus, Heliotropium (2), Lantana (2), Cestrum, Stemmodontia, Anastraphia, Marsilea, Dondia, Cassia, Maytenus, Myroxylon, Opuntia, Limnanthemum, Metastelma, Aster.—W. H. BLANCHARD (Torreya **6**:147–149. 1906) has described 2 new species of Rubus (dewberries) from New England.—H. D. HOUSE (*idem* 150) has described a new Convolvulus from Georgia.—H. A. GLEASON (Bull. Torr. Bot. Club **33**:387–396. 1906) has revised the pedunculate species of Trillium, defining 19 species, 3 of which are new.—H. D. HOUSE (Rhodora **8**:117–122. 1906) has described the violets and violet hybrids of the District of Columbia and vicinity, recognizing 26 species, and describing 8 new hybrids.—M. L. FERNALD (*idem* 126–130) has described new species of Cyperus (2) and Eleocharis from Eastern North America.

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[7] New Phytol. **5**:68–76, 141–148. 1906.

—E. B. COPELAND (Philippine Jour. Sci. **1**:143–166. *pls. 28*. 1906) has described 47 new species and 2 new genera (*Acrosorus* and *Thayeria*) of Philippine ferns. —SPENCER LE M. MOORE (Jour. Botany **44**:217–224. 1906) has described 2 new genera of Acanthaceae from Madagascar, *Melittacanthus* and *Amphiestes*.—BUNZO HAYATA (Jour. Linn. Soc. Bot. **37**:330. *pl. 16*. 1906) has described a new genus (*Taiwania*) of conifers from the Island of Formosa, belonging to the Taxodieae and nearest to Cunninghamia.—EDITH M. FARR (Ottawa Nat. **20**:105–111. 1906) has described new species from the Canadian Rockies and Selkirks under Pachystima (4), Arnica, Hieracium, Dryas, and Ranunculus.—O. STAPF (Kew Bulletin 1906 : 204) has published a new genus (*Diandrolyra*) of grasses whose native country is unknown.— O. E. JENNINGS (Annals Carnegie Mus. **3** : 480–485. 1906) has published new species under Kneiffia and Ibidium (Spiranthes) from Pennsylvania.—V. F. BROTHERUS (Hedwigia **45** : 271. 1906) has described a new genus (*Uleobryum*) of Pottiaceae from Peru.—F. LAMSON-SCRIBNER (Rhodora **8** : 137–146. 1906) has included in a newly named genus (*Sphenopholis*) the grasses that have been referred for many years to *Eatonia* Raf., recognizing 7 species.—W. H. BLANCHARD (*idem* 146–157) has described 5 new blackberries (Rubus) from Maine.—R. SCHLECHTER (Engler's Bot. Jahrb. **38** : 137–143. 1906) has described two new African genera (*Afrothismia* and *Oxygyne*) of Burmanniaceae.—J. C. ARTHUR and F. D. KERN (Bull. Torr. Bot. Club **33** : 403–438. 1906), in a revision of the N. Am. species of Peridermium, recognize 30 species, 10 of which are described as new.—K. K. MACKENZIE (*idem* 439–443) has described 4 new species of Carex.—LEROY ABRAMS (*idem* 445–446) has described 2 new southwestern species of Pentstemon.—J. M. C.

Japanese Experiment Station Bulletin.—A new departure in experiment station publications had been inaugurated by Professor HOZAI of the Imperial Central Agricultural Experiment Station of Tokio. In order to make the results of work carried on in the experiment stations of Japan accessible to investigators of other countries, a periodical Bulletin will be issued in which all work that may be of general interest will be published. The experimental system of Japan comprises 47 stations, whose work will in large part become available to the world through the publication of this Bulletin, printed partly in English and partly in German. The first number[8] contains 11 articles, some of which are briefly noted here to show the scope of the publication. S. MACHIDA reports on the influence of dilute solutions (0.3%) of Ca and Mg salts on the putrefactive action of bacteria. The rate of putrefaction was determined by the quantity of NH_3 formed in urine and in pepton solutions to which the salts had been added. It was found that the Ca-salts retard putrefaction, while Mg-salts favor the process.

Several articles of agronomic interest are given by G. DAIKUHARA on the correction of an unfavorable ratio of lime to magnesia, also on the lime factor

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[8] The Bulletin of the Imperial Central Agricultural Experiment Station, Japan. Vol. I. No. 1. pp. 94. *pls. 13*. Nishigahara, Tokio. December 1905.